

AMENDMENTS TO THE CLAIMS:

Claim 1. (Currently amended) An optical communication system for amplifying an optical signal propagating through an optical transmission line by using an optical amplifier in an optical repeater and emitting an amplified optical signal to an optical transmission line mounted at a back stage comprising:

a transmission line compensating device to generate control light for producing a Raman amplification effect within said optical transmission line outside of said optical repeater based on a control signal superimposed on said optical signal.

ai Claim 2. (Original) The optical communication system according to Claim 1, wherein said transmission line compensating device is so configured as to send said control light to an optical transmission line mounted at a front stage.

Claim 3. (Original) The optical communication system according to Claim 1, wherein said transmission line compensating device is so configured as to send said control light to said optical transmission line mounted at said back stage.

Claim 4. (Original) The optical communication system according to Claim 1, wherein said transmission line compensating device is mounted inside said optical repeater.

Claim 5. (Original) The optical communication system according to Claim 1, wherein said transmission line compensating device is separately and individually outside said optical repeater.

Claim 6. (Original) The optical communication system according to Claim 1, wherein said transmission line compensating device includes two or more control light sources to generate control light having a different wavelength and output and an optical multiplexer to multiplex said control light fed from said two or more control light sources.

Claim 7. (Currently amended) An optical communication system for amplifying an optical signal propagating through an upward transmission line or a downward transmission line by using a corresponding optical amplifier in an optical repeater and sending an amplified optical signal to an upward transmission line or a downward transmission line mounted at a back stage comprising:

transmission line compensating devices each operating for said upward transmission line or said downward transmission line and each generating, based on a control signal superimposed on said optical signal, control light which causes a Raman amplification effect in said optical transmission lines outside of said optical repeater.

Claim 8. (Original) The optical communication system according to Claim 7, wherein said transmission line compensating devices are so configured as to send said control light to optical transmission lines mounted at a front stage.

Claim 9. (Currently amended) The optical communication system according to Claim 7, wherein said transmission line compensating devices are so configured as to send said control light to said optical transmission lines mounted at said ~~sid~~ back stage.

Claim 10. (Original) The optical communication system according to Claim 7, wherein said transmission line compensating devices are mounted inside said optical repeater.

Claim 11. (Original) The optical communication system according to Claim 7, wherein said transmission line compensating devices are separately and individually mounted outside said optical repeater.

Claim 12. (Currently amended) The optical communication system according to Claim 7, wherein said transmission line compensating devices include two or more control light sources to generate control light having a different wavelength and output, and an optical multiplexer to multiplex said control light fed from said two or more control light sources.

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Claim 13. (Original) The optical communication system according to Claim 7, further comprising common circuits each controlling simultaneously said transmission line compensating devices each operating to correspond to said upward transmission line or said downward transmission line.

Claim 14. (Currently amended) An optical repeater for amplifying an optical signal propagating through an optical transmission line by using an optical amplifier and sending an amplified optical signal to an optical transmission line mounted at a back stage comprising:
a transmission line compensating device to generate, based on a control signal superimposed on said optical signal, control light which causes a Raman amplification effect within said optical transmission line outside of said optical repeater.

Claim 15. (Original) The optical repeater according to Claim 14, wherein said transmission line compensating device is so configured as to send said control light to an optical transmission line mounted at a front stage.

Claim 16. (Original) The optical repeater according to Claim 14, wherein said transmission line compensating device is so configured as to send said control light to said optical transmission line mounted at a back stage.

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Claim 17. (Original) The optical repeater according to Claim 14, wherein said transmission line compensating device is mounted inside said optical repeater.

Claim 18. (Original) The optical repeater according to Claim 14, wherein said transmission line compensating device is separately and individually mounted outside said optical repeater.

Claim 19. (Currently amended) The optical repeater according to Claim 14, said transmission line compensating device includes two or more control sources to generate control light having a different wavelength and output, and an optical multiplexer to multiplex said control light fed from said two or more control light sources.

Claim 20. (Currently amended) An optical repeater for amplifying an optical signal propagating through an upward transmission line or a downward transmission line by using a corresponding optical amplifier and sending an amplified optical signal to an upward

transmission line mounted at a back stage or a downward transmission line mounted at a back stage comprising:

transmission line compensating devices each operating for said upward transmission line or said downward transmission line and each generating, based on a control signal superimposed on said optical signal, control light which produces a Raman amplification effect within said upward transmission line or said downward transmission line outside of said optical repeater.

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Claim 21. (Original) The optical repeater according to Claim 20, wherein said transmission line compensating devices are so configured as to send said control light to an optical transmission line mounted at a front stage.

Claim 22. (Original) The optical repeater according to Claim 20, wherein said transmission line compensating devices are so configured as to send said control light to said optical transmission line mounted at said back stage.

Claim 23. (Original) The optical repeater according to Claim 20, wherein said transmission line compensating devices are mounted inside said optical repeater.

Claim 24. (Original) The optical repeater according to Claim 20, wherein said transmission line compensating devices are separately and individually mounted outside said optical repeater.

Claim 25. (Currently amended) The optical repeater according to Claim 20, said transmission line compensating devices includes two or more control sources to generate control light having a different wavelength and output, and an optical multiplexer to multiplex said control light fed from said two or more control light sources.

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Claim 26. (Original) The optical repeater according to Claim 20, further comprising common circuits each controlling simultaneously said transmission line compensating devices each operating to correspond to said upward transmission line or said downward transmission line.
